Please amend page 20, line 1 as follows:

#### Claims What is claimed is:

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1. (Original) A process for the production of an <sup>18</sup>F-labelled tracer which comprises treatment of a solid support-bound precursor of formula (I)

wherein X is a group which promotes nucleophilic substitution at a specific site on the attached TRACER and the TRACER is of formula (A)

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

 $R^3$  to  $R^{10}$  are independently selected from hydrogen, halo,  $C_{1-6}$  alkyl,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  hydroxyalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkoxy, hydroxy, cyano, and nitro; and one of the groups  $R^1$  to  $R^{10}$  is bonded to the SOLID SUPPORT-LINKER-X -:

with <sup>18</sup>F to produce the labelled tracer of formula (II)

<sup>18</sup>F-TRACER (II)

wherein the TRACER is as defined for the compound of formula (I) except that one of the groups R<sup>1</sup> to R<sup>10</sup> is bonded to the <sup>18</sup>F instead of to the SOLID SUPPORT-LINKER-X – in formula (I);

optionally followed by:

- (i) removal of excess <sup>18</sup>F<sup>-</sup>, for example by ion-exchange chromatography; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (II) as an aqueous solution
- 2. (Original) A process according to claim 1 which comprises treatment of a solid support-bound precursor of formula (Ia):

### SOLID SUPPORT-LINKER-SO<sub>2</sub>-O -TRACER (Ia)

wherein the TRACER is of formula (Aa)

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

 $R^3$  to  $R^{10}$  are independently selected from hydrogen, halo,  $C_{1-6}$  alkyl,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  hydroxyalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkoxy, hydroxy, cyano, and nitro;

in which either (a) an  $R^1$   $C_{1-6}$  alkyl group or (b) an  $R^3$  to  $R^{10}$   $C_{1-6}$  alkyl or  $C_{1-6}$  alkoxy group is bonded to the SOLID SUPPORT-LINKER-SO<sub>2</sub>-O – in formula (Ia);

with <sup>18</sup>F to produce the labelled tracer of formula (IIa)

<sup>18</sup>F-TRACER (IIa)

wherein the TRACER is as defined for the compound of formula (Ia) except that either (a) an  $R^1$   $C_{1-6}$  alkyl group or (b) an  $R^3$  to  $R^{10}$   $C_{1-6}$  alkyl or  $C_{1-6}$  alkoxy group is bonded to the <sup>18</sup>F instead of to the SOLID SUPPORT-LINKER-SO<sub>2</sub>-O – in formula (Ia); optionally followed by:

- (i) removal of excess <sup>18</sup>F<sup>-</sup>, for example by ion-exchange chromatography; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IIa) as an aqueous solution.
- 3. (Original) A process according to claim 2 wherein the TRACER is of formula (Aa1)

wherein

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

 $R^5$  is hydrogen or  $C_{1-6}$  alkyl,

 $R^8$  is hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkyl, or  $C_{1-6}$  alkyl;

provided that one of  $R^1$ ,  $R^5$  and  $R^8$  is  $C_{1-6}$  alkyl bonded to the SOLID SUPPORT-LINKER-SO<sub>2</sub>-O – in formula (Ia) or  $R^8$  is  $C_{1-6}$  alkoxy bonded to the SOLID SUPPORT-LINKER-SO<sub>2</sub>-O – in formula (Ia) .

4. (Original) A process according to claim 1 which comprises treatment of a solid support-bound precursor of formula (Ib)

Y

wherein Y is an anion and the TRACER is of formula (Ab)

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

one of  $R^3$  to  $R^{10}$  is a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib) and the others are independently selected from hydrogen, halo,  $C_{1-6}$  alkyl,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  hydroxyalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkoxy, hydroxy, cyano, and nitro;

with <sup>18</sup>F to produce the labelled tracer of formula (IIb)

## <sup>18</sup>F-TRACER (IIb)

wherein the TRACER is as defined for the compound of formula (Ib) except that one of R<sup>3</sup> to R<sup>10</sup> is a bond to the <sup>18</sup>F instead of a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>-group in formula (Ib);

optionally followed by:

- (i) removal of excess <sup>18</sup>F<sup>-</sup>, for example by ion-exchange chromatography; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IIb) as an aqueous solution.
- 5. (Original) A process according to claim 4 wherein the TRACER is a compound of formula (Ab1)

$$R^8$$
  $NR^1R^2$  (Ab1)

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

R<sup>5</sup> is hydrogen, C<sub>1-6</sub> alkyl, or a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

 $R^8$  is hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  alkyl, or a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

provided that only one of R<sup>5</sup> and R<sup>8</sup> is a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>-group in formula (Ib).

6. (Original) A process for the production of an <sup>18</sup>F-labelled tracer which comprises treatment of a solid support-bound precursor of formula (III):

wherein  $R^{11}$  and  $R^{12}$  are independently selected from  $C_{1-6}$  alkyl and the TRACER is a compound of formula (Ac):

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

one of  $R^3$  to  $R^{10}$  is a bond to the Sn in formula (III) and the others are independently selected from hydrogen, halo,  $C_{1-6}$  alkyl,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  hydroxyalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkoxy, hydroxy, cyano, and nitro;

with a source of <sup>18</sup>F, suitably <sup>18</sup>F<sub>2</sub>, <sup>18</sup>F-CH<sub>3</sub>COOF or <sup>18</sup>F-OF<sub>2</sub>;

to give the labelled tracer of formula (IV);

# <sup>18</sup>F-TRACER (IV)

wherein the TRACER is as defined for the compound of formula (III) except that one of R<sup>3</sup> to R<sup>10</sup> is a bond to the <sup>18</sup>F instead of a bond to the Sn in formula (III); optionally followed by:

- (i) removal of excess fluorinating agent and <sup>18</sup>F ions produced in the generation of the fluorinating agent or in the reaction; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IV) as an aqueous solution.
- 7. (Original) A process according to claim 6 in which the TRACER is suitably a compound of formula (Ac1)

$$R^8$$
  $NR^1R^2$  (Ac1)

wherein:

 $R^1$  and  $R^2$  are independently selected from hydrogen, a protecting group,  $C_{1-6}$  alkyl,  $C_{1-6}$  hydroxyalkyl, and  $C_{1-6}$  haloalkyl;

R<sup>5</sup> is hydrogen, C<sub>1-6</sub> alkyl, or a bond to the Sn in formula (III);

 $R^8$  is hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  haloalkyl,  $C_{1-6}$  alkyl, or a bond to the Sn in formula (III); provided that only one of  $R^5$  and  $R^8$  is a bond to the Sn in formula (III).

- 8. (Currently amended) A process for the preparation of a <sup>18</sup>F-labelled tracer of formula (II), (IIa), (IIb), or (IV), according to any one of claims 1 to 7claim 1, for use in PET.
- 9. (Currently amended) A compound of formula (I), (Ia), (Ib), (III) as defined in any one of claims 1 to 7claim 1.
- 10. (Currently amended) A radiopharmaceutical kit for the preparation of an <sup>18</sup>F-labelled tracer for use in PET, which comprises:
- (i) a vessel containing a compound of formula (I), (Ia), or (Ib) as defined in any one of claims 1 to 5claim 1; and
- (ii) means for eluting the vessel with a source of <sup>18</sup>F<sup>-</sup>;
- (iii) an ion-exchange cartridge for removal of excess <sup>18</sup>F; and optionally
- (iv) a cartridge for solid-phase deprotection of the resultant product of formula (II), (IIa), or (IIb) as defined in any one of claims 1 to 5claim 1.
- 11. (Currently amended) A cartridge for a radiopharmaceutical kit for the preparation of an <sup>18</sup>F-labelled tracer for use in PET which comprises:
- (i) a vessel containing a compound of formula (I), (Ia), or (Ib) as defined in any one of claims 1 to 5claim 1; and
- (ii) means for eluting the vessel with a source of <sup>18</sup>F<sup>-</sup>.
- 12. (Currently amended) A radiopharmaceutical kit for the preparation of of an <sup>18</sup>F-labelled tracer for use in PET, which comprises:
- (i) a vessel containing a compound of formula (III) as defined in claim 6 or 7; and
- (ii) means for eluting the vessel with a source of <sup>18</sup>F; and optionally
- (iii) a cartridge for removal of excess fluorinating agent and <sup>18</sup>F ions; and optionally
- (iv) a cartridge for solid-phase deprotection of the resultant product of formula (IV) as defined in claim 6 or 7.
- 13. (Currently amended) A cartridge for a radiopharmaceutical kit for the preparation of an <sup>18</sup>F-labelled tracer according to claim 12 for use in PET which comprises:

- (i) a vessel containing a compound of formula (III) as defined in claim 6 or 7; and
- (ii) means for eluting the vessel with a source of <sup>18</sup>F.
- 14. (Currently amended) A method for obtaining a diagnostic PET image which comprises the step of using a radiopharmaceutical kit according to claim 10 or 12 or a cartridge for a radiopharmaceutical kit according to claim 11 or 13.